Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented): A method for generating an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a visual display unit of a machine vision system, said method comprising:

acquiring a first specification that describes a plurality of hierarchical interrelationships among said plurality of machine vision entities, the first specification being for constructing a tree-style graphical representation of the hierarchical interrelationships among said plurality of machine vision entities;

acquiring a second specification that describes a plurality of non-hierarchical data flow interrelationships among said plurality of entities, the second specification being for enhancing the tree-style graphical representation by adding non-hierarchical data flow interrelationships among the plurality of machine vision entities;

constructing said enhanced tree-style graphical representation simultaneously representing graphically both said plurality of hierarchical interrelationships among said plurality of machine vision entities, and said plurality of non-hierarchical data flow interrelationships among said plurality of machine vision entities; and

displaying said enhanced tree-style graphical representation to produce said graphical user interface on said screen of said visual display unit of said machine vision system.

2. (original): The method according to claim 1, wherein said acquiring a first specification includes at least one of:

extracting said first specification from a digital file stored on a computer-readable medium; and

obtaining said first specification from an interactive graphical user interface.

3. (original): The method according to claim 1, wherein said acquiring a second specification includes at least one of:

extracting said second specification from a digital file stored on a computer-readable medium; and

obtaining said second specification from an interactive graphical user interface.

4. (previously presented): The method according to claim 1, wherein said constructing said enhanced tree-style graphical representation further comprises:

forming an initial tree-style graphical representation that depicts said set of hierarchical interrelationships among said plurality of machine vision entities; and

incorporating said plurality of non-hierarchical data flow interrelationships into said initial tree-style graphical representation, by depicting said plurality of non-hierarchical data flow interrelationships without altering said plurality of hierarchical interrelationships depicted in said initial tree-style graphical representation, to produce said enhanced tree-style graphical representation.

5. (previously presented): The method according to claim 4, wherein said forming includes graphically depicting a hierarchical interrelationship between a parent entity and a child entity in such a manner that the child entity in said hierarchical interrelationship appears left-indented from where the parent entity in said hierarchical interrelationship appears.

6. (previously presented): The method according to claim 4, wherein said incorporating includes graphically displaying a data flow connection between any two machine vision entities involved in any one of said plurality of non-hierarchical data flow interrelationships proximate to where said two machine vision entities appear in said initial tree-style graphical representation.

7. (previously presented): A method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

adding a new machine vision entity to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships among said machine vision entities, and non-hierarchical data flow interrelationships among said machine vision entities; and

deleting a depicted machine vision entity from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships among said machine vision entities, and non-hierarchical data flow interrelationships among said machine vision entities.

8. (previously presented): The method according to claim 7, wherein said adding further comprises:

defining said new machine vision entity;

specifying a position in said enhanced tree-style graphical representation where said new machine vision entity can be inserted;

modifying said enhanced tree-style graphical representation to incorporate said new machine vision entity at said position; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

9. (previously presented): The method according to claim 7, wherein said deleting further comprises:

selecting said depicted machine vision entity from said enhanced tree-style graphical representation;

identifying any hierarchical interrelationship and any non-hierarchical interrelationship, associated with said depicted machine vision entity;

modifying said enhanced tree-style graphical representation to incorporate the deletion of said depicted machine vision entity and the removal of said any hierarchical interrelationship and any non-hierarchical interrelationship, identified by said identifying; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

10. (previously presented): A method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

adding a new hierarchical interrelationship to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities;

deleting a depicted hierarchical interrelationship from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities; and

updating a depicted hierarchical interrelationship in the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships and non-hierarchical data flow interrelationships among a plurality of machine vision entities.

11. (previously presented): The method according to claim 10, wherein said adding further comprises:

obtaining a specification that describes said new hierarchical interrelationship;

modifying said enhanced tree-style graphical representation according to said specification; and

displaying said tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

12. (previously presented): The method according to claim 10, wherein said deleting further comprises:

selecting said depicted hierarchical interrelationship from said enhanced tree-style graphical representation;

modifying said enhanced tree-style graphical representation so that said depicted hierarchical interrelationship is removed; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

13. (previously presented): The method according to claim 10, wherein said updating further comprises:

selecting said depicted hierarchical interrelationship from said enhanced tree-style graphical representation;

revising the specification associated with said depicted hierarchical interrelationship to produce a modified hierarchical interrelationship; and

modifying said enhanced tree-style graphical representation to replace said depicted hierarchical interrelationship by said modified hierarchical interrelationship; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

14. (previously presented): A method for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said method comprises at least one of:

adding a new non-hierarchical data flow interrelationship to the depiction of said enhanced tree-style graphical representation;

deleting a depicted non-hierarchical data flow interrelationship from the depiction of said enhanced tree-style graphical representation; and

updating a depicted non-hierarchical data flow interrelationship in the depiction of said enhanced tree-style graphical representation.

15. (previously presented): The method according to claim 14, wherein said adding further comprises:

obtaining a specification that describes said new non-hierarchical data flow interrelationship;

modifying said enhanced tree-style graphical representation according to said specification; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

16. (previously presented): The method according to claim 14, wherein said deleting further comprises:

selecting said depicted non-hierarchical data flow interrelationship from said enhanced tree-style graphical representation;

modifying said enhanced tree-style graphical representation so that said depicted nonhierarchical data flow interrelationship is removed; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

17. (previously presented): The method according to claim 14, wherein said updating further comprises:

selecting said depicted non-hierarchical data flow interrelationship from said enhanced tree-style graphical representation;

revising the specification associated with said depicted non-hierarchical data flow interrelationship to produce a modified non-hierarchical data flow interrelationship;

modifying said enhanced tree-style graphical representation to replace said depicted non-hierarchical data flow interrelationship by said modified non-hierarchical data flow interrelationship; and

displaying said enhanced tree-style graphical representation, modified by said modifying to produce said modified graphical user interface on said screen of said display unit of said machine vision system.

18. (original): Obtaining as in any one of claim 2 and claim 11, wherein said obtaining further comprises:

displaying various machine vision entities from said plurality of machine vision entities in said graphical user interface;

selecting a parent entity from said various machine vision entities within said interactive graphical interface;

selecting a child entity from said various machine vision entities within said interactive graphical interface; and

defining a hierarchical interrelationship between said parent entity and said child entity.

19. (original): Obtaining as in any one of claim 3 and claim 15, wherein said obtaining further comprises:

displaying various machine vision entities from said plurality of machine vision entities in said graphical user interface;

selecting a first machine vision entity from said various machine vision entities;

selecting a second machine vision entity from said various machine vision entities; and

defining a non-hierarchical data flow interrelationship between said first machine vision entity and said second machine vision entity.

20. (previously presented): A computer-readable medium encoded with a program for generating an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a visual display unit of a machine vision system, said program comprising:

acquiring a first specification that describes a plurality of hierarchical interrelationships among said plurality of machine vision entities, the first specification being for constructing a tree-style graphical representation;

acquiring a second specification that describes a plurality of non-hierarchical data flow interrelationships among said plurality of machine vision entities, the second specification being for enhancing the tree-style graphical representation;

constructing said enhanced tree-style graphical representation simultaneously representing both said set of hierarchical interrelationships and said plurality of non-hierarchical data flow interrelationships among said plurality of machine vision entities; and

displaying said enhanced tree-style graphical representation to produce said graphical user interface on said screen of said visual display unit of said machine vision system.

21. (previously presented): A computer-readable medium encoded with a program for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said program comprising at least one of:

adding another machine vision entity to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities; and

deleting a depicted machine vision entity from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities.

22. (previously presented): A computer-readable medium encoded with a program for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said program comprising at least one of:

adding another hierarchical interrelationship to the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities;

deleting a depicted hierarchical interrelationship from the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities; and

updating a depicted hierarchical interrelationship in the depiction of said enhanced tree-style graphical representation that depicts simultaneously hierarchical interrelationships, and non-hierarchical data flow interrelationships among a plurality of machine vision entities.

23. (previously presented): A computer-readable medium encoded with a program for modifying an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a modified graphical user interface on a screen of a visual display unit of a machine vision system, said program comprising at least one of:

adding another non-hierarchical data flow interrelationship to the depiction of said enhanced tree-style graphical representation;

deleting a depicted non-hierarchical data flow interrelationship from the depiction of said enhanced tree-style graphical representation;

updating a depicted non-hierarchical data flow interrelationship in the depiction of said enhanced tree-style graphical representation.

24. (previously presented): A system for generating an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface of a machine vision system, said system for generating an enhanced tree-style graphical representation comprising:

an acquisition mechanism to acquire specifications for hierarchical interrelationships and non-hierarchical data flow interrelationships among a plurality of machine vision entities;

a storage mechanism to store said specifications for said hierarchical interrelationships and nonhierarchical data flow interrelationships, acquired by said acquisition mechanism;

a enhanced tree-style graphical representation generation unit to generate said enhanced tree-style graphical representation based on said hierarchical interrelationships, and non-hierarchical data flow interrelationships; and

a display unit on which said enhanced tree-style graphical representation is displayed to produce said graphical user interface of said machine vision system.

25. (previously presented): A system for acquiring the information about a plurality of machine vision entities and at least one specification describing the interrelationships among said plurality of machine vision entities, said system comprising:

a computer-readable medium on which at least one digital file is stored;

an extractor to extract, from said at least one digital file, said information about said plurality of machine vision entities and said at least one specification about said interrelationships among said plurality of machine vision entities;

an interactive graphical user interface;

an interactive acquisition unit to interactively acquire, via said interactive graphical user interface, said information about said plurality of machine vision

entities and said at least one specification about said interrelationships among said plurality of machine vision entities; and

a storage mechanism to store the information about said plurality of machine vision entities and said at least one specification, acquired by at least one of any said extractor and said interactive acquisition unit.

26. (previously presented): A system for constructing a an enhanced tree-style graphical representation of interrelationships among a plurality of machine vision entities for display as a graphical user interface on a screen of a display unit of a machine vision system, said system for constructing comprising:

a storage mechanism to store a first specification describing a plurality of hierarchical interrelationships and a second specification describing a plurality of non-hierarchical data flow interrelationships among a plurality of machine vision entities;

an initial tree-style graphical representation generator to generate an initial tree-style graphical representation based on said first specification retrieved from said storage mechanism;

an enhanced tree-style graphical representation generator to generate said enhanced tree-style graphical representation based on said initial tree-style graphical representation by depicting non-hierarchical data flow interrelationships among said plurality of machine vision entities in said initial tree-style graphical

representation according to said second specification retrieved from said storage mechanism; and

a display unit to display said enhanced tree-style graphical representation generated by said enhanced tree-style graphical representation generator.